# RM-94

# SERVICE MANUAL

*US Model*
*Canadian Model*
*AEP Model*
*UK Model*
*E Model*

## SPECIFICATIONS

Dimensions
Approx. 132 × 20 × 56 mm (w/h/d)
(5 1/4 × 13/16 × 2 1/4 inches)
not including clip
Weight Approx. 170 g (6.0 oz) including cable
Cable length
Approx. 5 m (16 feet 4 7/8 inches)

Design and specifications are subject to change without notice.

The Sony RM-94 is wired remote control unit for use with a Sony video camera recorder with a 5-pin REMOTE connector (such as the CCD-V9/V90 series).

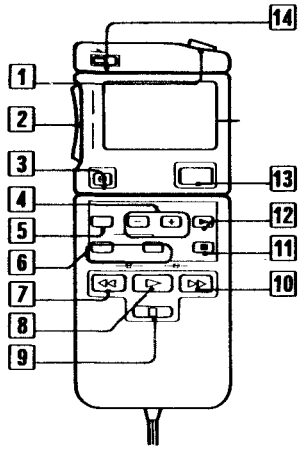
MICROFILM

REMOTE COMMANDER

SONY®

ACC

# SECTION 1
# GENERAL




## BUTTONS FOR VIDEO CAMERA SECTION

**[1] START/STOP button**
Press to start or stop the camera recorder when the recorder is set in the camera recording pause mode.

**[2] ZOOM button**
Press for smooth power zooming.
**TELE:** For telephoto position
**WIDE:** For wide-angle position

**[3] [⟲] REC (recording) REVIEW button**
When the recorder is set in the camera recording pause mode, press to play back the last few seconds of the recording on the viewfinder screen.

**[4] EDIT SEARCH button**
Press to search for the desired point when the recorder is set in the camra recording pause mode. The picture will appear on the viewfinder screen.
+: When pressed continuously, a playback picture will appear.
−: When pressed continuously, the picture will be played back in reverse.
When pressed and immediately released, it will function the same way as the [⟲] REC REVIEW button.

## BUTTONS FOR VCR SECTION

**[5] COUNTER RESET button**

**[6] ● REC (record) buttons**
Press both buttons simultaneously to start recording when the POWER switch of the recorder is set to VTR.

**[7] ◀◀ REW (rewind) button**
Press to rewind the tape. Keeping this button pressed during playback enables you to see a high-speed playback in reverse.

**[8] ▶ PLAY (playback) button**

**[9] ■ STOP button**

**[10] ▶▶ FF (fast forward) button**
Press to advance the tape. Keeping this button pressed during playback enables you to see a high-speed playback.

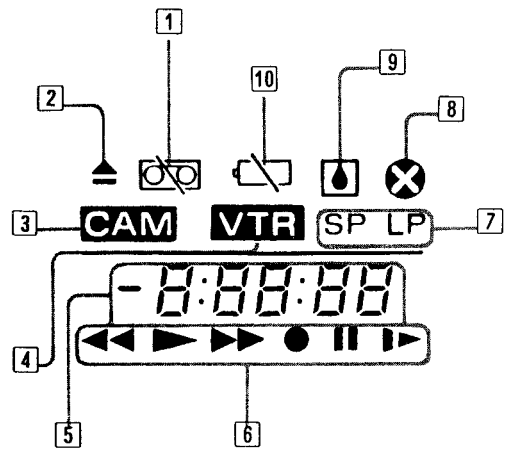
**[11] ❚❚ PAUSE button**
Press to stop the tape for a moment during recording or playback.

**[12] I▶ SLOW button**
Press to playback picture at 1/5 normal speed.

## BUTTONS FOR BOTH VIDEO CAMERA AND VCR SECTIONS

**[13] POWER button**
Press to turn on the recorder. To operate the video camera section, set the POWER switch of the recorder to CAMERA, and to operate the VCR section, set it to VTR.
To turn the power off, press the button again.

**[14] HOLD switch**
When the Remote Commander is not in use, slide this switch in the direction of the arrow. The buttons of the Commander will not be operable even if they are pressed.




## DISPLAY WINDOW

This displays the condition of the video camera recorder.

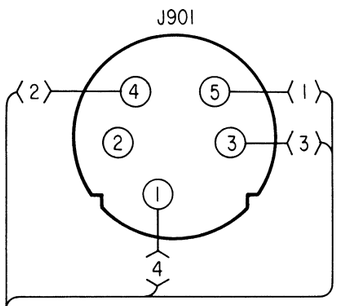
[1] Lights up when no cassette is inserted.
[2] Blinks when there is condensation on the tape or the tape comes to its end during camera recording.
[3] Lights up when camera section is operable.
[4] Lights up when VCR section is operable.
[5] Tape counter
[6] Tape operation mode indication
◀◀ (rewind)/▶ (playback)/▶▶ (fast forward)/● (record)/❚❚ (pause)/ I▶ (slow)
[7] Tape speed indicator
[8] Blinks when heads are contaminated.
[9] Blinks when there is condensation inside the unit.
[10] Blinks when the battery is exhausted.

The functions of the buttons are limited by the functions of the video camera recorder. The displays in the display window may be different from those of the video camera recorder.

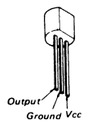
# SECTION 2
# DIAGRAMS

## 2-1. PRINTED WIRING BOARD

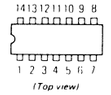
## 2-2. SEMICONDUCTOR



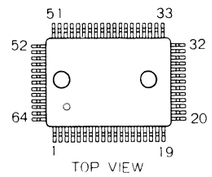

**S-8054ALB**



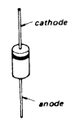

**μPD4024BC**
**μPD4069UBC**
**TC4024BP**



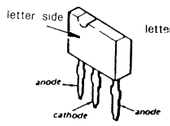

**μPD7502G-432-12**



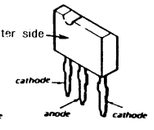

**RD5.1E-L1**
**RD5.1-L2**
**1S1555**




**DAN201**

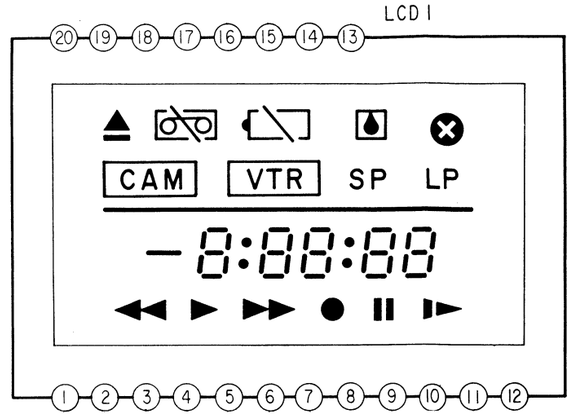



**DAP201**

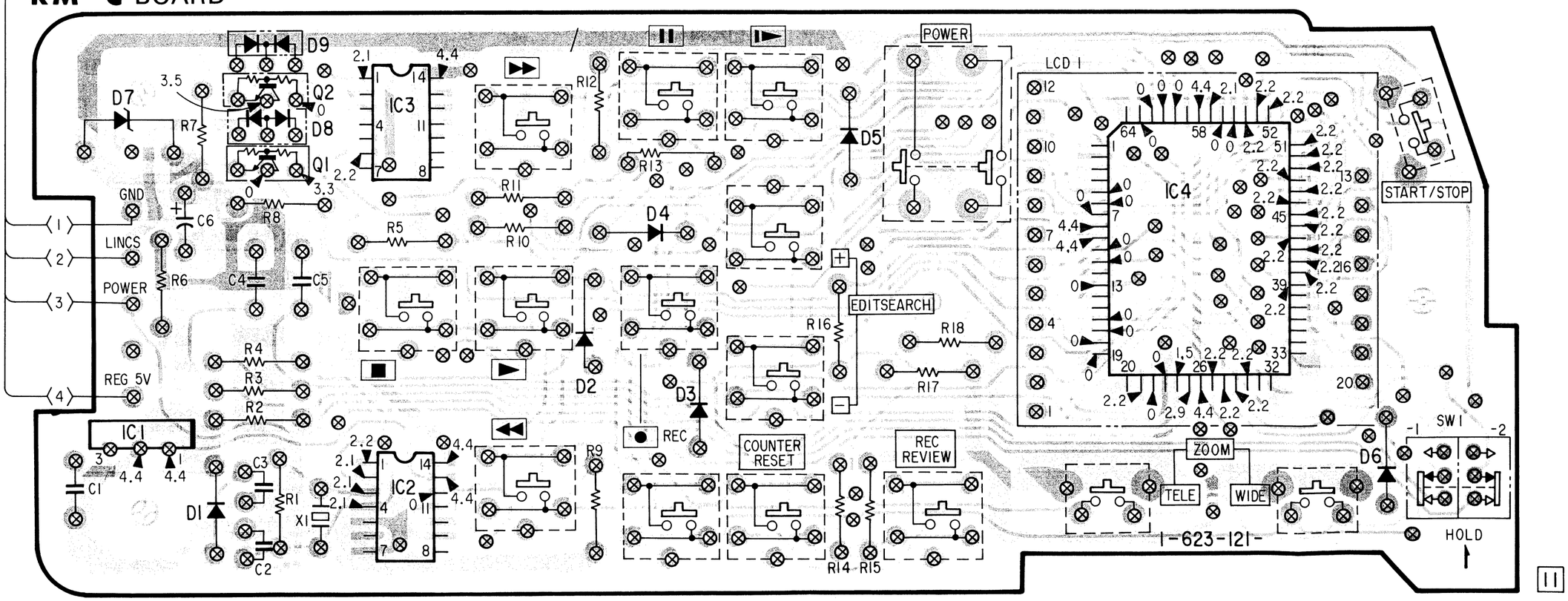



**DTC144ES**

LCD I




## RM-C BOARD




### Note on Mounting Diagram

- ○— : indicates a lead wire mounted on the component side.
- ●— : indicates a lead wire mounted on the printed side.
- ⊗ : Through hole.
- ■ : soldering side.
- ■ : component side.
- ■ : B+ Pattern.



### Note on Schematic Diagram

- All resistors are in ohms, ¼W unless otherwise noted. kΩ: 1000Ω, MΩ: 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF: μμF. 50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- □ : panel designation.
- — : B + bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Resdings are taken with a digital multimeter (DC10MΩ).
- Voltage variations may be noted due to normal production tolerances.

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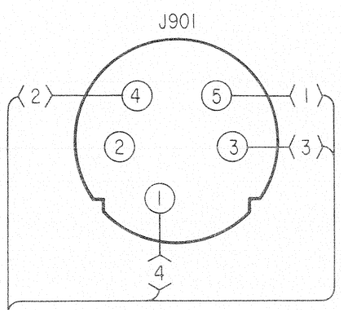
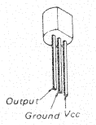
# DIAGRAMS

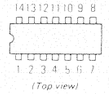
## 2-1. PRINTED WIRING BOARD

## 2-2. SEMICONDUCTOR

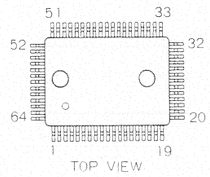



S-8054ALB μPD4024BC μPD4069UBC TC4024BP

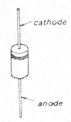


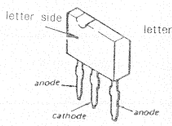

μPD7502G-432-12



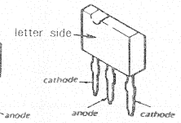

RD5.1E-L1 RD5.1-L2 1S1555



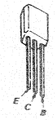

DAN201



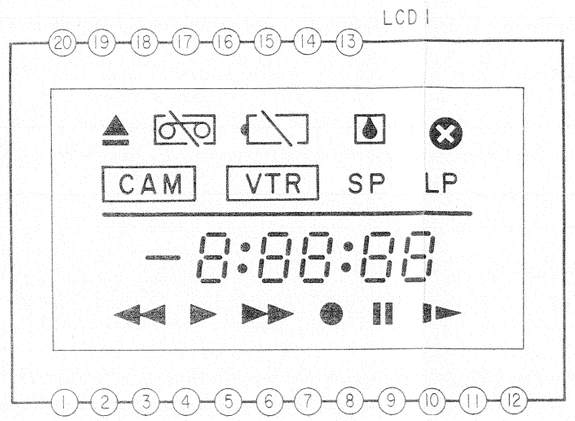

DAP201



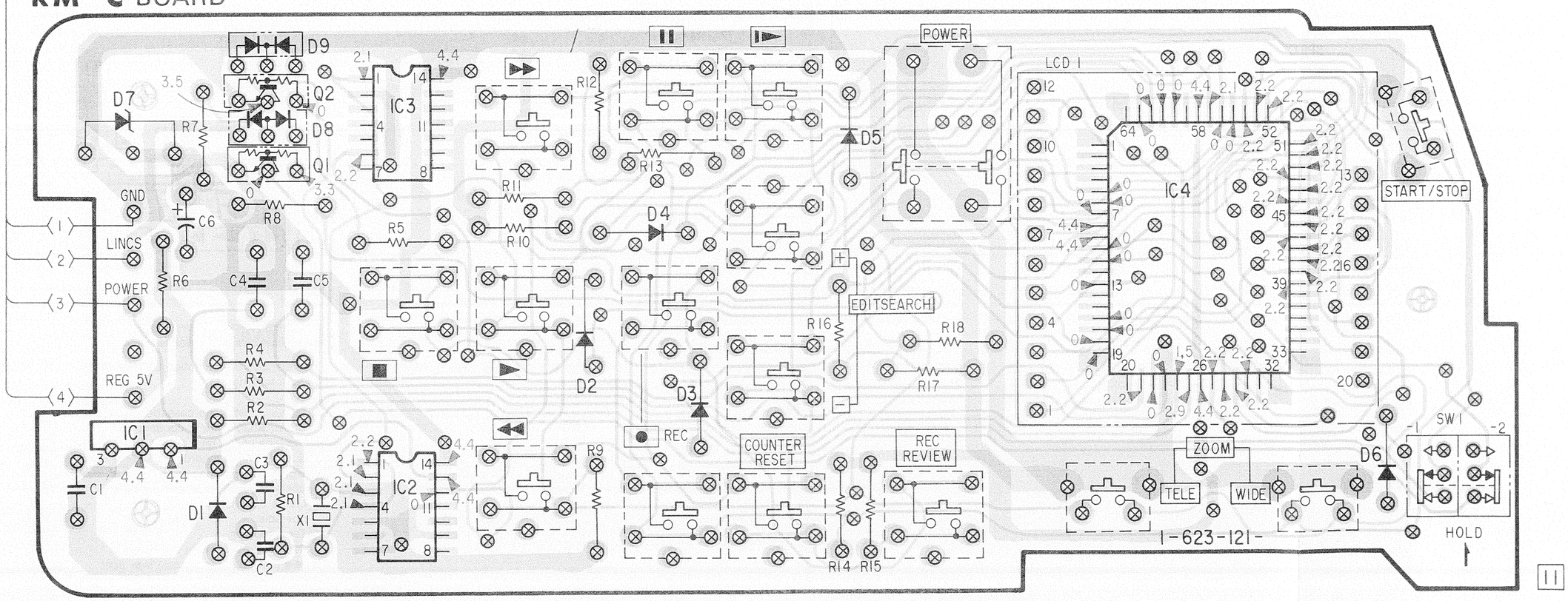

DTC144ES




LCD I




## RM-C BOARD

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- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : panel designation.
- : B+bus.
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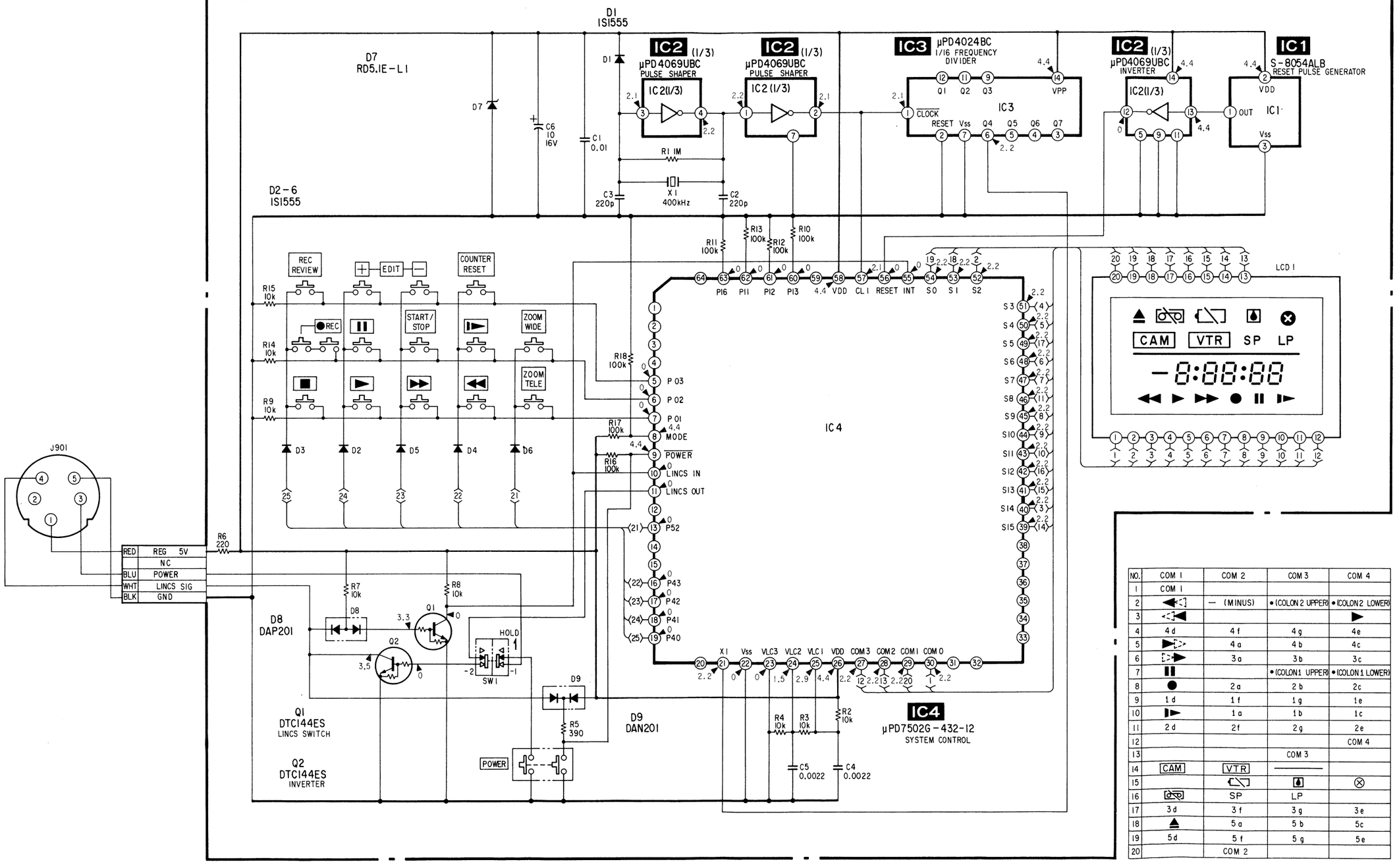
## 2-3. SCHEMATIC DIAGRAM (See page 4 for note.)

**RM-C** BOARD



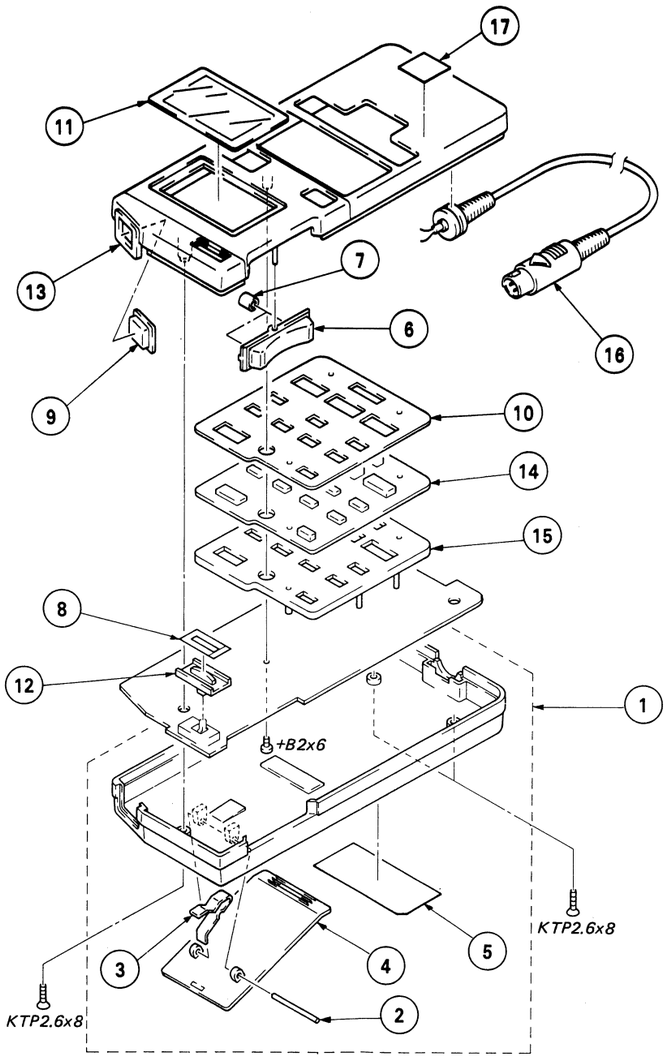

| NO. | COM 1 | COM 2 | COM 3 | COM 4 |
|---|---|---|---|---|
| 1 | COM 1 | | | |
| 2 | ◀ | — (MINUS) | • (COLON 2 UPPER) | • (COLON 2 LOWER) |
| 3 | ◁ | | | ▶ |
| 4 | 4d | 4f | 4g | 4e |
| 5 | ▶ | 4a | 4b | 4c |
| 6 | ▷ | 3a | 3b | 3c |
| 7 | ❚❚ | | • (COLON 1 UPPER) | • (COLON 1 LOWER) |
| 8 | ● | 2a | 2b | 2c |
| 9 | 1d | 1f | 1g | 1e |
| 10 | ▮▶ | 1a | 1b | 1c |
| 11 | 2d | 2f | 2g | 2e |
| 12 | | | | COM 4 |
| 13 | | | COM 3 | |
| 14 | CAM | VTR | | |
| 15 | | | | ⊗ |
| 16 | | SP | LP | |
| 17 | 3d | 3f | 3g | 3e |
| 18 | ▲ | 5a | 5b | 5c |
| 19 | 5d | 5f | 5g | 5e |
| 20 | | COM 2 | | |

# SECTION 3
# EXPLODED VIEWS

**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | A-6767-525-A | COVER ASSY, LOWER | 2-5 |
| 2 | 2-199-003-00 | SHAFT, CLIP | |
| 3 | 2-199-007-00 | SPRING | |
| 4 | 2-389-327-01 | CLIP | |
| 5 | *2-389-363-01 | LABEL, MODEL NUMBER | |
| 6 | 2-389-314-01 | BUTTON, ZOOM | |
| 7 | 9-911-839-XX | CUSHION | |
| 8 | *2-389-364-01 | PLATE, COLOR | |
| 9 | 2-389-365-01 | KEY TOP (B) | |
| | | SCREW | |
| | 7-685-104-19 | SCREW +P 2X6 TYPE2 SLIT | |
| | 7-685-234-19 | SCREW +KTP 2.6X8 TYPE2 SLIT | |
| 10 | *2-389-366-01 | LABEL | |
| 11 | *2-389-368-01 | COVER, LCD | |
| 12 | 2-389-369-01 | KNOB | |
| 13 | *2-389-371-01 | COVER, UPPER | |
| 14 | 2-389-372-01 | KEY TOP (A) | |
| 15 | 2-389-373-01 | RETAINER, RUBBER | |
| 16 | 1-558-700-31 | CORD (WITH PLUG) 5P | |
| 17 | 3-763-713-01 | SONY SYMBOL STICKER | |



# RM-94

# RM-C

# SECTION 4
# ELECTRICAL PARTS LIST

**NOTE:**

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | RM-C BOARD | | | |
| | | ********** | | | |
| | 1-552-174-00 | SWITCH, PUSH (POWER) | | | |
| | 1-553-997-00 | SWICTH, KEY BOARD (REC REVIEW, COUNTER RESET, EDIT SERCH, SLOW, REC, PAUSE, REW, PLAY, FF, STOP) | | | |
| | 1-554-088-00 | SWITCH, KEY BOARD (START/STOP, ZOOM WIDE, ZOOM TELE) | | | |
| | 2-357-251-01 | BUSHING | | | |
| | 2-389-367-01 | SPACER, LCD | | | |
| | | CAPACITOR | | | |
| C001 | 1-161-013-00 | CERAMIC | 0.01MF | 10% 25V | |
| C002 | 1-102-110-00 | CERAMIC | 220PF | 10% 50V | |
| C003 | 1-102-110-00 | CERAMIC | 220PF | 10% 50V | |
| C004 | 1-102-121-00 | CERAMIC | 0.0022MF | 10% 50V | |
| C005 | 1-102-121-00 | CERAMIC | 0.0022MF | 10% 50V | |
| C006 | 1-124-462-00 | ELECT | 10MF | 20% 16V | |
| | | DIODE | | | |
| D001 | 8-719-815-55 | DIODE 1S1555 | | | |
| D002 | 8-719-815-55 | DIODE 1S1555 | | | |
| D003 | 8-719-815-55 | DIODE 1S1555 | | | |
| D004 | 8-719-815-55 | DIODE 1S1555 | | | |
| D005 | 8-719-815-55 | DIODE 1S1555 | | | |
| D006 | 8-719-815-55 | DIODE 1S1555 | | | |
| D007 | 8-719-101-50 | DIODE RD5.1EL2 | | | |
| D008 | 8-719-933-10 | DIODE DAP201 | | | |
| D009 | 8-719-933-08 | DIODE DAN201 | | | |
| | | IC | | | |
| IC001 | 8-759-913-41 | IC S-8054ALB | | | |
| IC002 | 8-759-140-69 | IC UPD4069UBC | | | |
| IC003 | 8-759-240-24 | IC TC4024BP | | | |
| IC004 | 8-759-113-41 | IC UPD7502G-432-12 | | | |
| | | JACK | | | |
| J901 | 1-558-700-31 | CORD (WITH PLUG) 5P | | | |
| | | LCD | | | |
| LCD1 | 1-808-021-11 | LCD (RM-94) | | | |
| | | TRANSISTOR | | | |
| Q001 | 8-729-900-89 | TRANSISTOR DTC144ES | | | |
| Q002 | 8-729-900-89 | TRANSISTOR DTC144ES | | | |
| | | RESISTOR | | | |
| R001 | 1-215-493-00 | CARBON | 1M | 5% 1/4W | |
| R002 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R003 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R004 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R005 | 1-249-412-11 | CARBON | 390 | 5% 1/4W | |
| R006 | 1-249-409-11 | CARBON | 220 | 5% 1/4W | |
| R007 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R008 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R009 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R010 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R011 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R012 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R013 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R014 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R015 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R016 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R017 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R018 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| | | SWITCH | | | |
| SW001 | 1-553-755-00 | SWITCH, SLIDE (HOLD) | | | |
| | | CRYSTAL | | | |
| X001 | 1-527-532-00 | OSCILLATOR, CERAMIC (400KHz) | | | |

**********

ACCESSORY
*********

| Part No. | Description | Remark |
|---|---|---|
| 3-769-290-11 | MANUAL, INSTRUCTION | |

**********

**Sony Corporation**
**Consumer Video Group**

**9-972-578-11**

**English**
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